

## Usage Guide: Forecasting Tool – PREDICT

1. Login to your account with your user name and credential
2. Upload historical data through File Upload option:

### Upload Historical Time Series Data

Browse...

No file selected

3. The tool only supports excel and csv format. Please upload - .xls/.xlsx/.csv format only
4. Historical Data format required for Upload:

Item 1	Item 2	Item 3	Item 4
11	12	15	16
15	15	14	17
17	18	18	11
14	20	11	16
15	18	12	11
15	16	12	19
17	15	14	10
14	11	14	20
13	10	16	12
20	11	11	19
18	12	11	12
13	16	15	19
15	12	19	20
12	13	10	11
20	11	12	10
20	15	19	14
13	17	13	20
20	19	19	11
20	18	14	17
18	16	19	14
10	11	19	13
15	19	16	19
19	15	18	15
19	11	17	12

Please arrange data vertically (each column representing a time series). You can put any number of columns you require to forecast. The first row represents the header or name of time series. In the above example there are 4 time series data with 24 observation each. The tool requires each column to have equal observation. An error will be thrown during forecast if column has different number of historical time series observation.

5. Put historical time series data in each column with header as name of time series in first row. Sr. No in 1<sup>st</sup> column is not required
6. You can forecast any number of time series data; the tool doesn't limit number of time series that can be forecasted. You can also put any number observation under each time series with only condition that all time series should have equal number of observations.
7. Select Header and file type while uploading data

Header

**File Type**

xlsx

csv

8. After upload you can view the data under historical data Tab

Historical Data    Point Forecast    Visualization

Show 10 entries

	Sku.1	Sku.2
1	3.02	63
2	5.09	88
3	6.6	50
4	6.6	90
5	12.63	226
6	8.29	85
7	4.71	202
8	9.43	79
9	45	103
10	7.35	115

Showing 1 to 10 of 32 entries

9. You need to enter average period in: **Periods to average over for Moving Average Model Parameter.**

**Periods to average over for Moving Average Model**

3

This average period in only needed for average moving models: Simple and Exponential Forecasting Models. It represents the period over which data is averaged for forecasting.

10. Seasonality parameter: This parameter is used when there is seasonality in the time series data. For quarterly data seasonality =4, for monthly data seasonality =12, for daily data seasonality = 7, for weekly data seasonality =52 and so on. Seasonality denotes frequency after which season repeat itself. Minimum 2 seasons data are required for generating accurate forecast in seasonal data. Example: for monthly data minimum 24-month data is required

### Select Seasonality

12

#### 11. Forecasting Models available:

- a. Moving Average
  - i. Simple
  - ii. Exponential
- b. Trend Seasonality Model
  - i. Holt -Winter Additive
  - ii. Holt – Winter Multiplicative
  - iii. Best Fit Model
- c. ARIMA Model (Auto regressive Integrative Moving Average Model)
  - i. Seasonal
  - ii. Non-Seasonal
  - iii. First Order Trend Seasonal
- d. Expert Model
  - i. Neural Network: Feed Forward Neural Network
  - ii. Expert Aggregation Model: This model averages forecast from all expert model to produce the forecast.

Expert Aggregation Model is expected to give best result generally.

### Select Forecast Method

Simple

Simple

Exponential

Trend Seasonality Model

Holt-Winter Additive

Holt-Winter Multiplicative

Best Fit Model

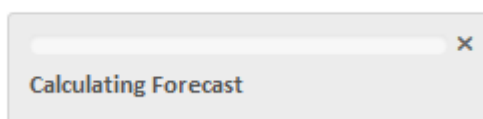
#### 12. Forecast Horizon: Number of periods to be forecasted.

### Forecast Horizon

3

#### 13. Forecast Button: After selection of parameter, press forecast button to generate forecast.

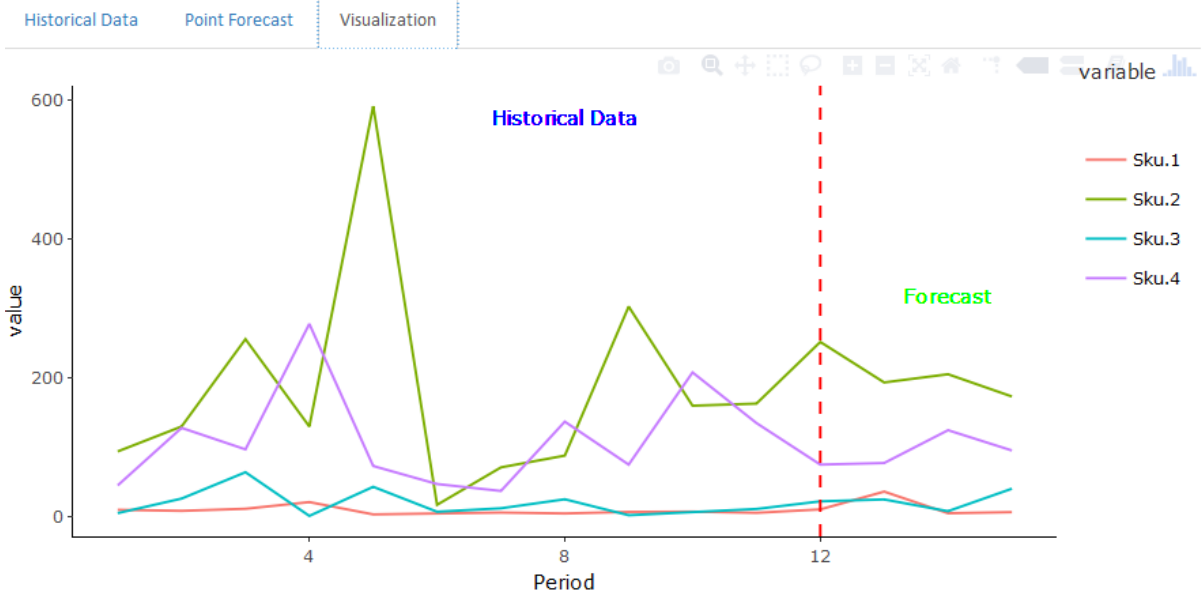
#### 14. On clicking Point Forecast Tab, forecast gets calculated. Till forecast is calculated: following message is displayed at the bottom of page:



#### 15. Use Download button for downloading forecast in .xlsx format

Forecast Download Forecast: Excel

16. Go to Visualization Tab and see the graphically generated forecast



The graph represents 12-month historical data along with forecast data divided by red line. You can click on SKU's on the right side to remove that SKU from graph. Plot can be downloaded from top menu icon. You can also zoom in and zoom out from graph using top menu icons in Visualization Tab.

17. Estimated Time for forecast
- a. 10 time series data: 3 minutes
  - b. 100 time series data: 20 mints
  - c. 300 time series data: 35 mints

# Tool Snapshot

### Upload Historical Time Series Data

Browse... Forecast\_data.csv  
Upload complete

Header

**File Type**

xlsx

csv

**Periods to average over for Moving Average Model**

3

**Select Seasonality**

12

**Select Forecast Method**

Expert Aggregation Model


**Forecast Horizon**

3

Forecast    Download Forecast: Excel

**Help Document**

Seasonality Parameter Selection



Historical Data    Point Forecast    Visualization

Show 10 entries    Search:

	Sku.1	Sku.2	Sku.3	Sku.4
1	21.08	175.47	15.04	91.56
2	7.66	180.90	19.77	88.54
3	10.47	345.22	30.77	86.51

Showing 1 to 3 of 3 entries    Previous 1 Next

### Upload Historical Time Series Data

Browse... Forecast\_data.csv  
Upload complete

Header

**File Type**

xlsx

csv

**Periods to average over for Moving Average Model**

3

**Select Seasonality**

12

**Select Forecast Method**

Expert Aggregation Model


**Forecast Horizon**

3


Forecast    Download Forecast: Excel

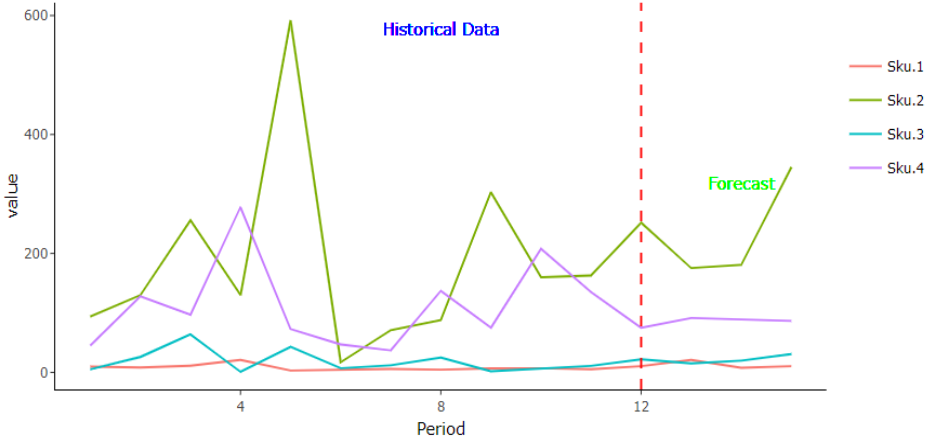
**Help Document**

Seasonality Parameter Selection



Historical Data    Point Forecast    Visualization





value

Period

- Sku.1
- Sku.2
- Sku.3
- Sku.4